Setup, Operation, Service

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General notes

Before using the printer....

- The following warning hints and precautions contained in these Operating Instructions must be strictly observed. This will considerably contribute to the safe and expert operation of your printer.
- Exclusively original parts and accessories available from the manufacturer are to be used in order to maintain the service life of your prlnter. The use of parts not in compliance with the exacting demands made by the manufacturer may result in unnecessary sources of troubles.
- The housing of the unit must exclusively be opened by authorized technical personnel only.
- Insertion/Exchange material should be carrled out only by especially instructed personnel (Set Up Mode!).
- On operation with open cover, fingers, hair, clothes, jewelry, etc. may be caught by and get into the unit in the print modul.
- At a material width less than 65 m the thrust screw has to be tightend.
- Release printhead by opening the pressing lever during longer periods of no operation.
- Wait at least 10 seconds before switching unit back „ON“.
- Do not remove, insert or exchange PLUG IN CARDS until after at least 60 seconds from switching „OFF“ the device.

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Initiation

Unpacking the printer

1. Remove top foamed packing.
2. Take printer out of cardboard box.

For carrying your printer, take it by the base plate.

Front cover, reel holder and motor of optional knife must not be used as carrying handles.

Setting up and connecting the printer

1. Check mains voltage setting and fuses.
   - The fuses can be replaced by removal of the fuse element (Fig. 1).
   - Mains voltage variation is possible by turning the insert.

CAUTION!

Mains voltage can kill you!

- *Pull off the mains connector befor you check or change the mains voltage setting!*
- *Pull off the mains connector befor you check or replace the fuse!*

2. Insert current supply into lining designated for this purpose at the rear side of unit.
3. Switch „ON“ of unit.

Connections

All connectors are located at the rear side.

A Centronics or alternatively a serial V.24/DB 25 (RS232) interface interface is integrated.

Before connecting/disconnecting the interface cable and the stacker switch „OFF“ all devices.

Only devices may connected to the interface and stacker connector which are approved to ICE 950 and VDE 0805 and are in compliance to SELV.

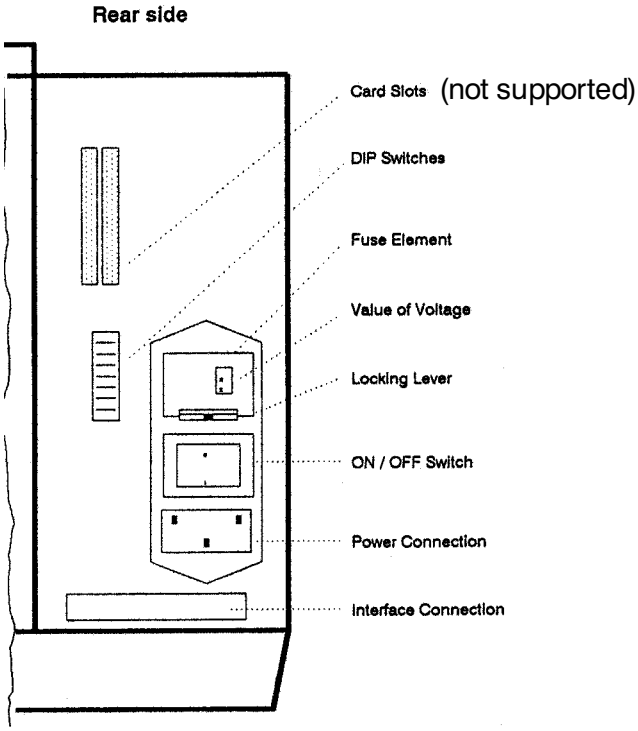

Fig. 1: Connections on the printer backside.

Insertion/removal of material

CAUTION!

Danger of pulling in and tearing off of hair, jewellery, loose clothing, etc.!

– *Don´t let long hair, loose sleeves, jewellery, etc. hang into the printer!*

1. Hang document material in reel holder in a way to ensure anticlockwise unwinding.
2. Open pressure lever (red).
3. Insert material underneath the printhead according to sketch, further material transport is automatically.
4. Close pressure lever.
5. When using notched material, adjust gap sensor to the gap position.

At a material width less than 65 m the thrust screw (Fig. 2) has to be tightened.

6. Switch „ON“ printer - the green LED glows at the operation panel (eventually switch to OFFLINE). By depression of the FEED-key a material feed can be advanced. At punched material one label length is advanced, continous material is transport as long as FEED-key is operated.

Removal of material Material can be removed after opening the pressure lever.

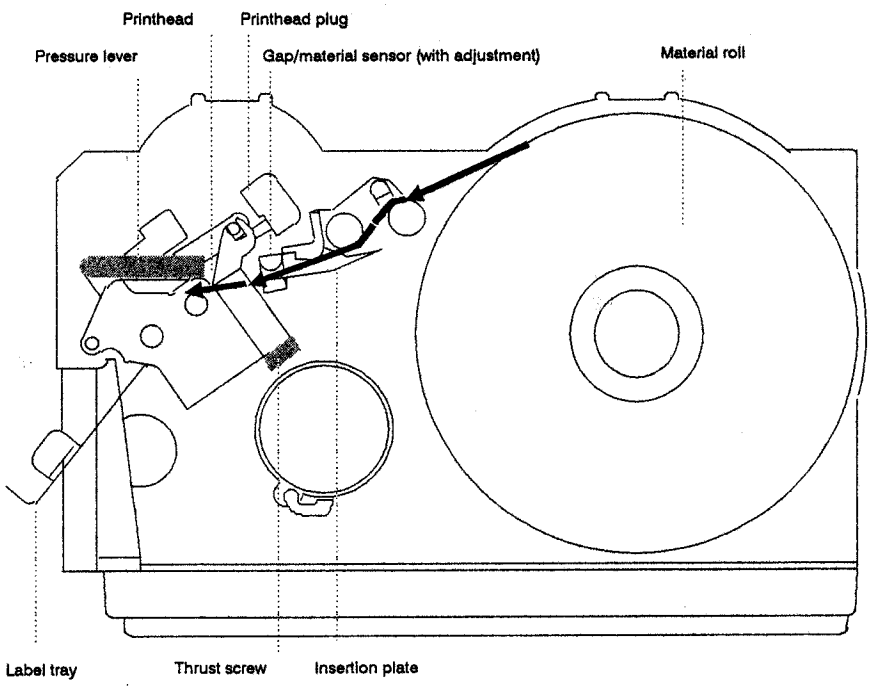

Fig. 2: Material winding diagram.

Operation

Connecting to a computer / starting

1. Connect interface cable from computer to the printer. Switch on the printer, the green LED glows (LED =small, round light emitting element).
2. By depressing the ON/OFF key, the printer is switched to „ONLINE mode“, the yellow LED glows and the printer is ready to receive data and to print labels.

Functions of display keys

ON / OFF

- Switch to the ONLINE or OFFLINE mode. ONLINE mode is indicated by the yellow LED, the unit is ready to receive data.
- Control break of a print job, the yellow LED flashes fast - rest quantity!
- If an error is indicated (red LED) the error will be confirmead after its correction by depressing the ON/OFF key.

FEED

- In the OFFLINE mode a material feed can be advanced. At punched material one label length is advanced, continous material is transport as long as FEED-key is operated.
- If an error is indicated the error code may be called off via the yellow LED
- The controlled break of a current print job will be cancelled.

CUT

Reserved for optional functions.

Functions of LED elements

The operation panel shows 3 LED‘s in order to indicate the operation modes.

POWER

(Green) This LED glows, if printer is switched on.

ERROR

(Red) Indication of an error (end of media.....)

DATA

(Yellow) LED glows if printer is switched to ONLINE mode.

- LED flashes if unit prints, receives data or generates an image.
- LED flashes fast if current print job is interrupted - rest quantity!
- Indication of error code with 5 short/long flash signals called off by pressing the FEED key.

Adjustment of DIP switches

Left of the mains plug there are located 8 DIP switches (Fig. 1) with which the parameters may adjusted as follows.

A modification of a DIP switch position will be effictive after newly switching „ON“ the device.

Switch	← ON Position OFF →		Function
1	RS 232	Centronics	Interface
2	ONLINE	OFFLINE	Operation mode after switching on
3	XON/XOFF	RTS	Handshake
	Switch 4	**Switch 5**	Baudrate
	OFF	OFF	19200
	ON	OFF	9600
	OFF	ON	4800
	ON	ON	2400
	Switch 6	**Switch 7**	Parity
	OFF	OFF	NONE
	ON	OFF	CLEAR
	OFF	ON	ODD
	ON	ON	EVEN
8	1	2	Stop bits

Fig. 3: DIP switch settings.

Maintenance and care

Carefull and regular maintenance will raise the performance and longevity of the printer, especially that of the printhead. Generally regard: Keep any dirt out off the print module! Remove any deposits of paper, adhesive and pre-print colors off the printhead, feed roller and gap sensor periodically.

Changing and cleaning the printhead

1. Switch unit off and pull off mains plug!
2. Open pressure lever.
3. Remove material.

Disconnect printhead plug after at least 3 minutes from switching off the unit!

4. Unscrew knurled screws at printhead holder and remove.
5. Draw out the printhead carefully.
6. Clean print head with dust-free cloth and cleansing liquor only.

Metal objects must never get into contact with printhead surface! Never use knives or objects with sharp edges for cleaning.

7. Proceed assembly of printhead in reverse order.

   Special care is to be taken that printhead is supported flush on holding plate and completely flush towards the guide mechanism (looks like a tooth) (Fig. 4) to warrant inprint according to the O-line as well as damages of the printhead.

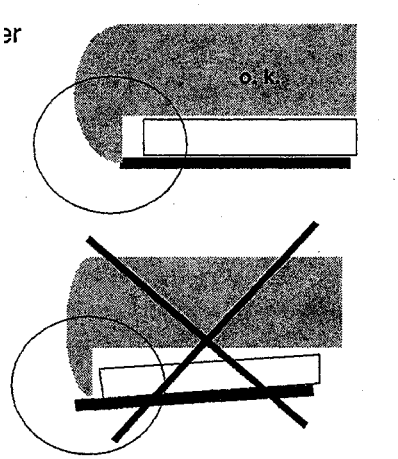

Fig. 4: The print head must cling thightly to its holder (upper figure).

Cleaning the feed roller

1. Switch unit off and pull off mains plug!<D>
2. Remove material.
3. Remove insertion plate by loosen two knurled screws below the plate.
4. Clean the accessable section of print roller with dust-free cloth and cleansing liquor only. Advance print roller by switching on the printer, close printhead lever,press FEED key - the roller turns a quarter round.
5. Switch unit off and pull off mains plug!

Never use knives or objects with sharp edges for cleaning.

Cleaning of gap sensor

According to the materials applied, the light barrier is to be cleaned from materials residues and dust by means of compressed air.

With heavy contamination additional cleaning by using a dust-free cloth and cleansing liquor is recommended.

Cleaning of material guiding parts

According to the materials applied any residues at material baffles is to be cleaned regularly.

Contaminated surfaces influence the feed of material which will reduce the print quality.

Label material

The printer is designed for thermal direct printing. The label material should be of low abrasive behaviour of the surface structure and low start temperature for the colour development.

If the material is extremely abrasive, the printhead is faster worn as usual.

Similar conditions prevail with high start temperature. Material and printhead require a longer cooling down period, the printing quality is more critical and the printhead is faster worn as on a normal rate.

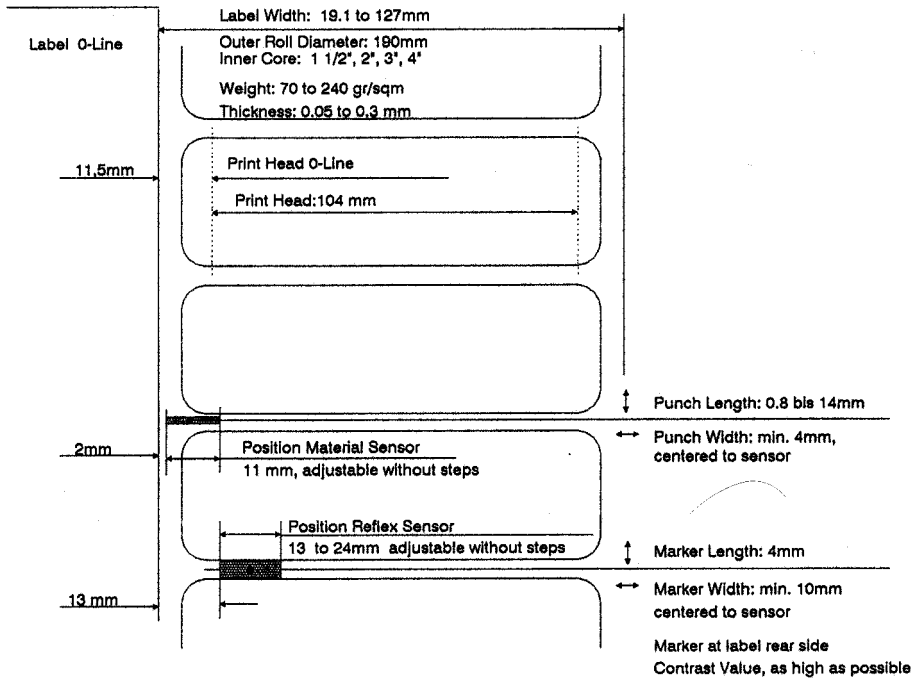

Fig. 5: Specifications for label material.

Trouble shooting

Errors during operation are indicated by means of the red LED at the operation panel.

By pressing the FEED key an error code may be called off via the yellow LED in order to recogneize the kind of error.

After correction of the error the error indication has to be confirmed by pressing the ON/OFF key. After switching the printer to ONLINE mode the job will be continued. Partly printed labels will be repeated.

LED-Code	Error	Measure
• • • – –	Pressing lever open	Close lever, punch is re-initialized, job will be continued.
• • – • •	Material end	Insert material and check position of gap sensor, punch is re-initialized, job will be continued.
• • • • •	NOVRAM read error	Call service technician
• – • • •	NOVRAM write error	Call service technician
• • • – •	No gap found on 3 or more labels	1. Check gap definition in printing mask. 2. Check whether correct material is inserted. 3. Check whether light barrier is cleaned. 4. Check material guide and position of light barrier.
• • – – •	RS232 - Transmission Error	Check adjustments: baud rate, stop bits, no. of data bits and correct them at computer and/or printer if neccessary. Check transmitting line and external influences.
• – • – •	RS 232 - Reception Buffer overflow	Check synchronisation of data transmitting and correct it at computer and/or printer if neccessary.
• – – – •	RS232 - Reception error parity	Check parity adjustment and correct it at computer and/or printer if neccessary.
• • • • –	Memory Allocation Error	Call service technician
• – • • –	Font Allocation Error	Call service technician
• • – • –	Unknown Interrupt	Call service technician

Tab. 1: Blink codes of the yellow LED (• =short lighting up, – =long lighting up).

LED-Code	Error	Measure
O – – O –	Speedo Error	Call service technician

Tab. 1: Blink codes of the yellow LED (• = short lighting up, – = long lighting up).

Status Printout

Status printout for indication of internal data and print test. Please use material with width of appr. 100 mm width.

Access to status printout Press and keep pressed ON/OFF key for 3 seconds.Simultaneously switch the unit on.The green LED becomes illuminated, the print starts.

Abortion Press ON/OFF key until print stops.

Sensor Check Routine

Access to routine

Press and keep press CUT key for 3 seconds. Simultaneously switch the unit on. The function is indicated by means of the LED's. The sensors/switch can be selected by pressing the corresponding keys.

Gap sensor

Press ON/OFF key

Green Air or very opac backing paper is measured.

Red Backing paper or thin paper is measured.

Orange Cardboard etc is measured.

Micro switch/printhead lever

Press FEED key

Green or orange are illuminated when opening or closing the lever.

Material end sensor

Press CUT key

With material the orange LED glows, without material the green one.

Technical Specifications

Print Technologie	Thermal Direct Print with Thickfilm Printhead
Resolution	8 Dots/mm - Standard
Print Width	104 mm
Emulation	EasyPlug
Print Speed	100 mm/s (approx. 4“/s)
Interface	Parallel, optional serial
Memory	1 MB dynamic RAM
Print Ratio	100% 1:1, Batch and mixed version
Gap recognition / gap dimensions	Self-initializing gap sensor with 11mm variable adjusting range – Length of punch: 0.8 to 14mm, width: min. 4mm – Optional reflex marking sensor with 11mm variable adjusting range; marker length: 4mm, width: min. 10mm
Fonts	17 Fonts inclusive OCR-A and OCR-B
Character modification	Scaling in X/Y-direction up to factor 8, rotation 90, 180, 270 degrees
Bar codes	EAN 8 und 13 mit Add-On 2 und 5, UPC-A, UPC-E, Code 39, Code 93, Code ITF, Codabar, Code 128, Code 2/5M, Code 2/5I, Code 2/5 5-Strich, EAN 128
Bar code modification	Scaling in X-direction up to factor 8, in Y-direction from 1 to 100mm, rotation 90, 180, 270 degrees
Graphics	Download is supported
Graphics modification	Scaling in X/Y-direction up to factor 8, rotation 90, 180, 270 Grad
Material Stock	Width: 110 mm, Inner diameter: 1 1/2“, 2“, 3“, 4“ Outer diameter: 190mm
Media Material	Self adhesive, plastics and card boards compatable to Thermal direct print with a weight of 70 up to 240gr/sqm and a thickness of 0.05 up to 0.3 mm.
Label Size	Width: 19.1 to 127 mm, length: 5 to ca. 700 mm
Mains voltage	115 / 230 V, +/-10%

Mains frequency	50 Hz
Fuse	230 V - 1.6 A slowblow 115 V - 2.5 A slowblow
Power consumption	max. 200 W
Ambient conditions	Operating temperatur: +5 to +35 °C Storage temperatur: -20 to +70 °C Humidity: 45 to 75%, non condensing
Noise	<75 dB(A)
Weight	9 kg
Dimensions	285 x 242 x 350 mm (W x H x D)
Construction	Compact and light weight construction in especially shielded housing; all mobile axles pivoted; open assembly of parts and components for easy operating and service.

Anhang / Appendix

Zeichensatztabelle / Font table

FONT (#105)

	00h	01h	02h	03h	04h	05h	06h	07h	08h	09h	0Ah	0Bh	0Ch	0Dh	0Eh	0Fh
F0h	–	±	£			§			°						■	
E0h		ß														
D0h																
C0h																¤
B0h														¢		
A0h					ñ	Ñ			¿			½	¼	¡	«	»
90h	É	æ	Æ		ö	ò		ù		Ö	Ü	ø	£	Ø		ƒ
80h	Ç	ü	é		ä	à	å	ç			è				Ä	Å
70h	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	
60h	‘	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
50h	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
40h	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
30h	0	1	2	3	4	5	6	7	8	9	0	:	;	<	=	>
20h		!	"	#	$	%	&	’	(	)	*	+	,	-	.	/
10h																
00h										TAB				CR		

Linien und Rechtecke / Lines and rectangles

LINES & RECTANGLES

Linetyp in different thicknesses

Typ 0
Typ 1
Typ 2
Typ 3
Typ 4
Typ 5
Typ 6
Typ 7
Typ 8
Typ 9
Typ 10
Typ 11
Typ 12

Spacing constant or proportional if altering thickness of line

constant
constant
constant
proportional
proportional
proportional
proportional
constant
constant
constant
constant
constant

EXAMPLES

Line typ:	8
Line width:	10
Line length:	30
Rotation:	0°

Line typ:	5
Line width:	2.5
Rectangle width(x):	40
Rectangle height(y):	10
Rotation:	90°

Line typ:	3
Line width:	0.5
Rectangle width(x):	30
Rectangle height(y):	10
Rotation:	0°

Line typ:	0
Line width:	3
Rectangle width(x):	30
Rectangle height(y):	10
Rotation:	0°

Feed direction

Interne Fonts / Internal fonts

MVT 2	MVT 3	Easy Plug	
I 0	I 0	100	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_ ABCDEFGH JKLMNOPQRSTUVWXYZ{|}~ÇÜ ÄÅÉ ÆŒ ÖÜ £Øƒ Ñ¿½¼¡«»¢¤ ¯±£ §°■
I 1	I 1	101	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'abcdefghijklmnopqrstuvwxyz{|}~▒Çüéäàåçè ÄÅÉæÆöòùÖÜ ø£ØƒñÑ¿½¼¡ «»¢¤ ¯±£ §°■
I 2	I 2	102	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'abcdefghijklmnopqrstuvwxyz {|}~▒Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
I 3	I 3	103	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'abcdefg hijklmnopqrstuvwxyz{|}~▒Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
I 4	I 4	104	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNO PQRSTUVWXYZ[\]^_'abcdefghijklmnopqrstuvwxyz{|}~▒ Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
I 5	I 5	105	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'abcdefghijklmnopqrstuvwxyz {|}~▒Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
I 6	I 6	106	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'abc defghijklmnopqrstuvwxyz{|}~▒Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
I 7	I 7	107	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMN OPQRSTUVWXYZ[\]^_'abcdefghijklmnopqrstuvwxyz{|} ~▒Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
I 8	I 8	108	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLM NOPQRSTUVWXYZ[\]^_'ABCDEFGHIJKLMNOPQRSTUVWXYZ {|}~▒ÇÜÉÄÀÅÇÈ ÄÅÉÆÖÒÙÖÜø£ØƒñÑ¿½¼¡«»¢¤µ ¯±£¾¶§°■

MVT 2	MVT 3	Easy Plug	
19	19	109	!"#$%&'()*+,-./0123456789:;<= >?@ABCDEFGHIJKLMNOPQRSTUVWXYZ [\]^_`ABCDEFGHIJKLMNOPQRSTUVWX YZ{|}~▒ÇüéäàåçèÄÅÉæÆöòùÖÜø£Ø ƒñÑ¿½¼¡«»¢¤ µ¯±£¾¶§°■
OC	OA	110	#$% *+,-./0123456789 >½AABCDEFGHIJKLMNOPQRSTUVWXYZÄ¼Üø£¤ABCDEFGHIJKLMNO PQRSTUVWXYZÆÖ■Ñ
/	R1	111	!"#$%&'()*+,-./0123456789:;< = >?@ ABCDEFGHIJKLMNOPQRSTUVWXYZ [\]^_`abcdefghijklmnopqrstuvwxyz{|}~▒ ÇüéäàåçèÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
/	R2	112	!"#$%&'()*+,-./0123456789::< = >?@ ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcde fghijklmnopqrstuvwxyz{|}~▒Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■
/	R3	113	!"#$%&'()*+,-./0123456789:;< = >?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcde fghijklmnopqrstuvwxyz{|}~▒Çüéäàåçè ÄÅÉæÆöòùÖÜø£ØƒñÑ¿½¼¡«»¢¤ ¯±£ §°■

MVT 2	MVT 3	Easy Plug	
/	S1	114	!"#$%&'()*+,-./0123456789:;<=>?@ ABCDEFGHIJKLMNOPQRSTUV WXYZ[\]^_‘abcdefghijklmnopqrstuvwxyz{|}~▒Çüéääåçè ÄÅÉæÆöòù ÖÜø£Ø ƒñÑ¿½¼i«»¢¤ ¯±£ §°■
/	S2	115	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUV WXYZ[\]^_‘abcdefghijklmnopqrstuvwxyz{|}~▒Çüéääåçè ÄÅÉæÆöòù ÖÜø£Ø ƒñÑ¿½¼i«»¢¤ ¯±£ §°■
/	OB	116	!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_'abc defghijklmnopqrstuvwxyz{|}~üéääå è ÄÅ æÆöòùÖÜø£Ø ñÑ ¤§

Interne Barcodes / Internal bar codes

MVT 2	MVT 3	Easy Plug	
EK	EAN 8	0	CODE EAN8
EL	EA13	1	CODE EAN13
UA	UPCA	2	CODE UPCA
93	C93	3	CODE 93
5 I	2/5 I	4	CODE 2/5 INTERLEAVED
5 M	2/5 M	5	CODE 2/5 MATRIX
5 5	2/5 5	6	CODE 2/5 5 STRICHE
39	C39	7	CODE 39

MVT 2	MVT 3	Easy Plug	
CB	CB	8	CODE NW7 (CODABAR)
UE	UPCE	9	CODE UPCE
E2	E2	10	CODE ADD ON 2
E5	E5	11	CODE ADD ON 5
IT	ITF	12	CODE ITF
-	C128	13	CODE 128
-	MSI	14	CODE MSI
-	E128	15	CODE EAN128

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